



Photo by Bill Rhodes

Clean Water Act Long-Term Control Plan and CERCLA Coordination



August 15, 2017

LTCP and CERCLA Coordination

- The NCG believes coordination issues associated with the implementation of an LTCP and CERCLA remedy in the same footprint of Newtown Creek in the same timeframe is critical
- This presentation is meant to inform USEPA's decision-making on the CERCLA remedy and not meant to influence the LTCP process
 - The NCG takes no current position as to whether or when the City controls flows from its CSOs and MS4s, but it does believe the impacts on a CERCLA remedy are critical to understand and acknowledge in remedy selection
- Only USEPA and NYSDEC are in a position to integrate CWA compliance with a CERCLA remedy, and only the City is capable of effectively implementing both programs in the areas of the tributaries where the two programs overlap
- This presentation walks through four key points in order to encourage coordination and discussion

LTCP and CERCLA Considerations

1. The logistics of putting LTCP controls in place may delay or prevent certain CERCLA actions
2. The LTCP will not eliminate all CSO discharges and will not address discharges from the WWTP or MS4s; these ongoing post-LTCP discharges will contribute to “urban background” contamination and need to be considered in the CERCLA process
3. The future contamination from ongoing CSO and MS4 discharges that contribute to urban background contamination cause risk to human health and the environment
4. The CERCLA process needs to account for these future uncontrolled CSO and MS4 loadings that contribute to urban background contamination

Urban Background at Newtown Creek

- Ongoing sources of urban background sediment contamination via particulate deposition to Newtown Creek
 - East River
 - CSOs
 - MS4s

1. The logistics of putting LTCP controls in place may delay or prevent certain CERCLA actions

LTCP Controls May Delay CERCLA Process

- Controls selected in the LTCP are not scheduled to be completed until 2042
 - Construction, operations, and maintenance of those controls could delay some or all of a CERCLA cleanup for years or even decades
- Discharges of sewage, stormwater, solids, and CERCLA contaminants from CSOs in the upstream tributaries will be similar to current levels until construction is complete in 2042
 - Dutch Kills CSO controls complete in 2029

2. The LTCP will not eliminate all CSO discharges and will not address discharges from the WWTP or MS4s; these ongoing post-LTCP discharges will contribute to “urban background” contamination and need to be considered in the CERCLA process

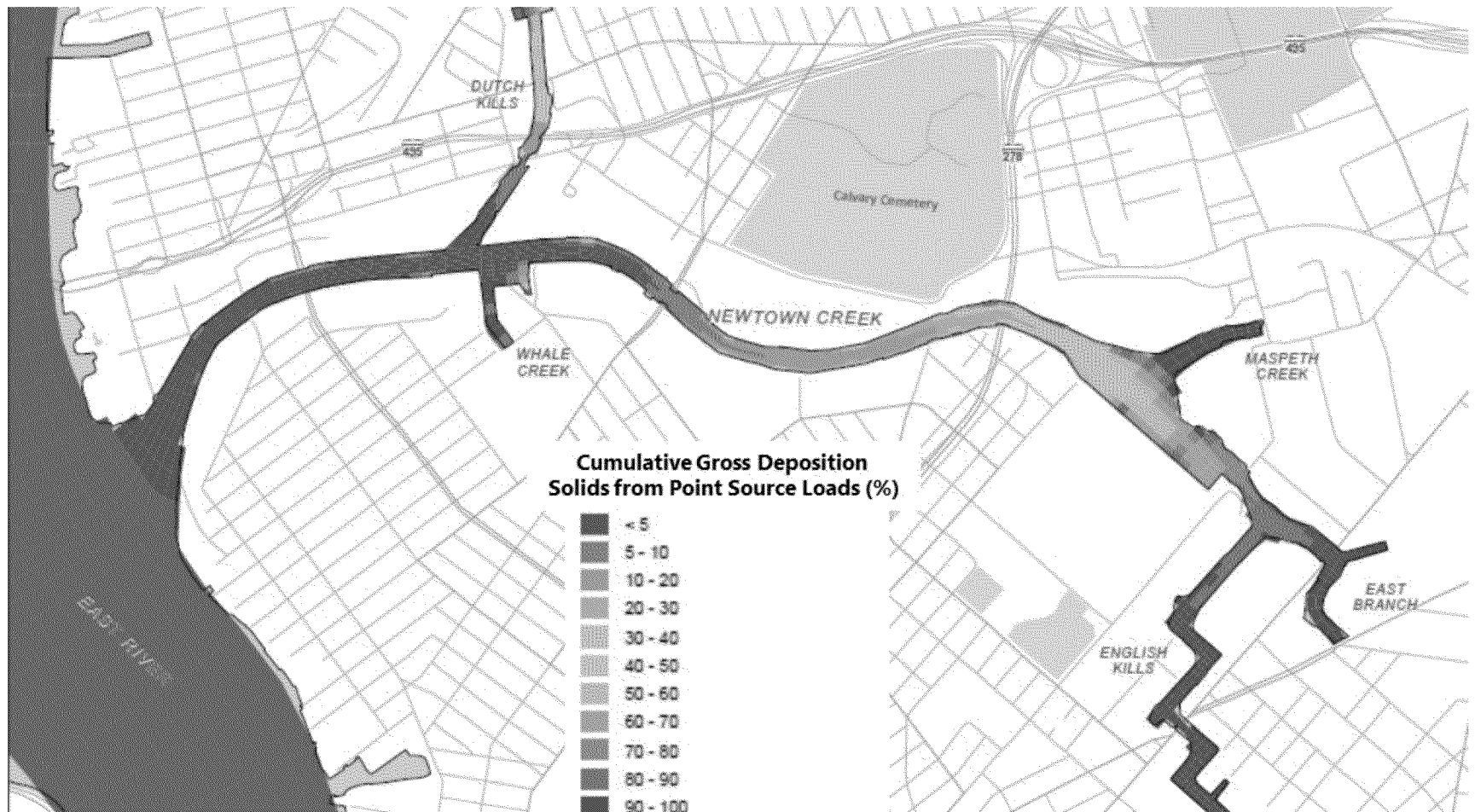
Ongoing Urban Background Contamination

- Even once implemented, the LTCP will not eliminate all CSO discharges and will not address discharges from the WWTP and MS4s

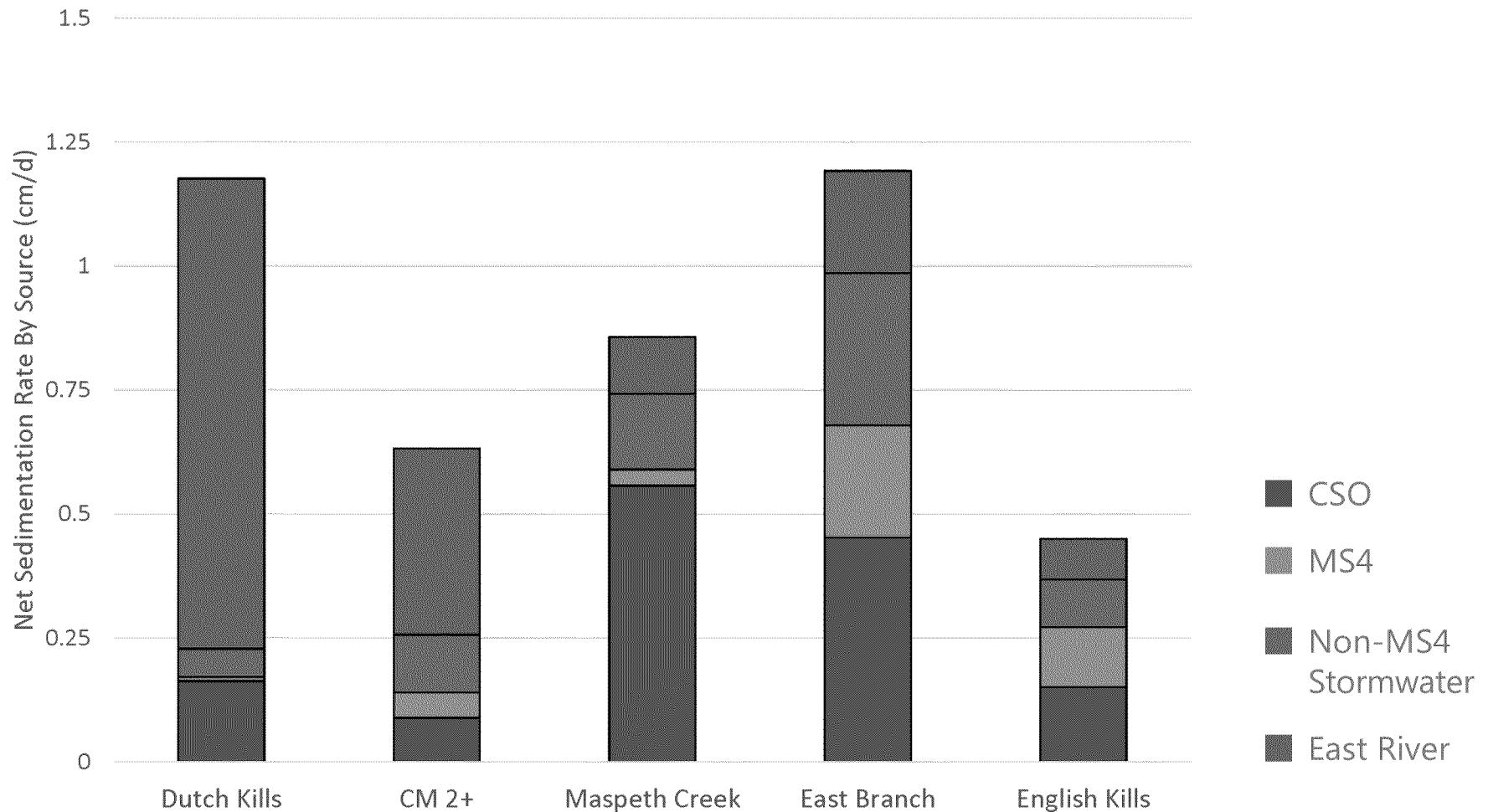
Volume of Point Source Discharges (Millions of Gallons)

Point Source Discharge	LTCP Baseline	Year 2029	Year 2042
CSOs	1,161	1,071	454
Whale Creek WWTP Effluent	1,600	1,600	1,600
MS4s	400	400	400
Total	3,161	3,071	2,454

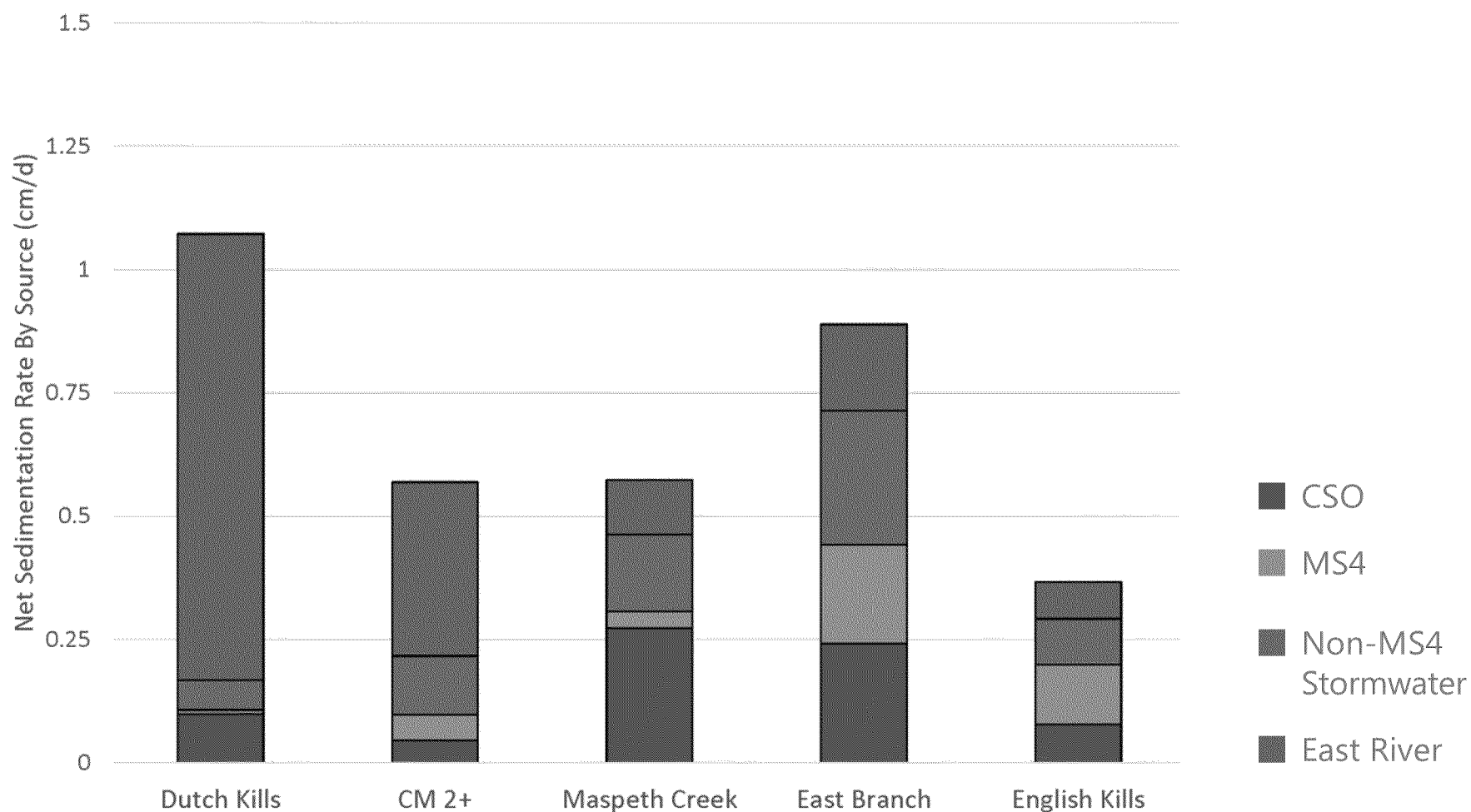
Relative Impacts of Current Point Source Sediment Loads on Total Deposition



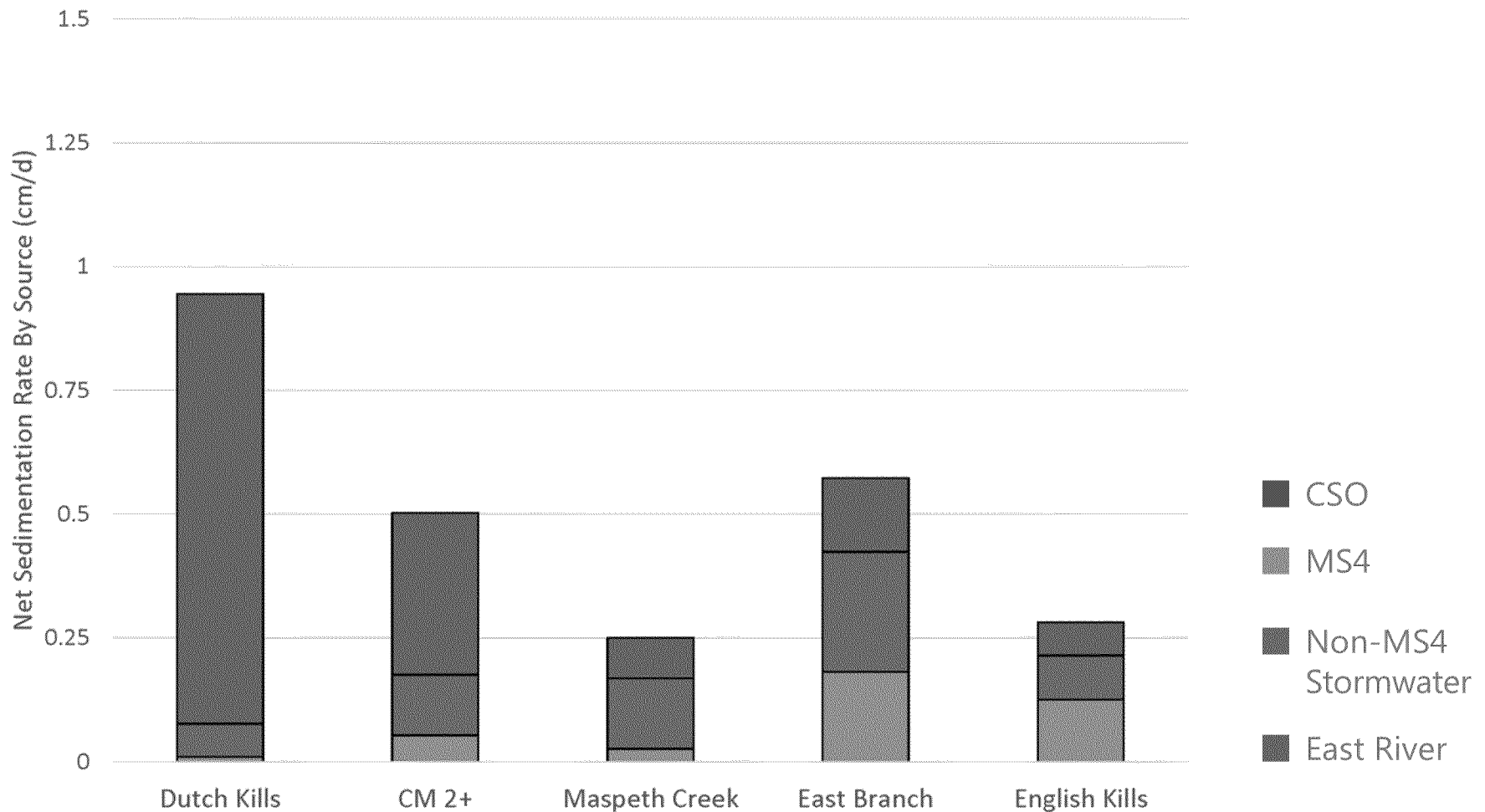
Contribution to Sedimentation: LTCP Baseline



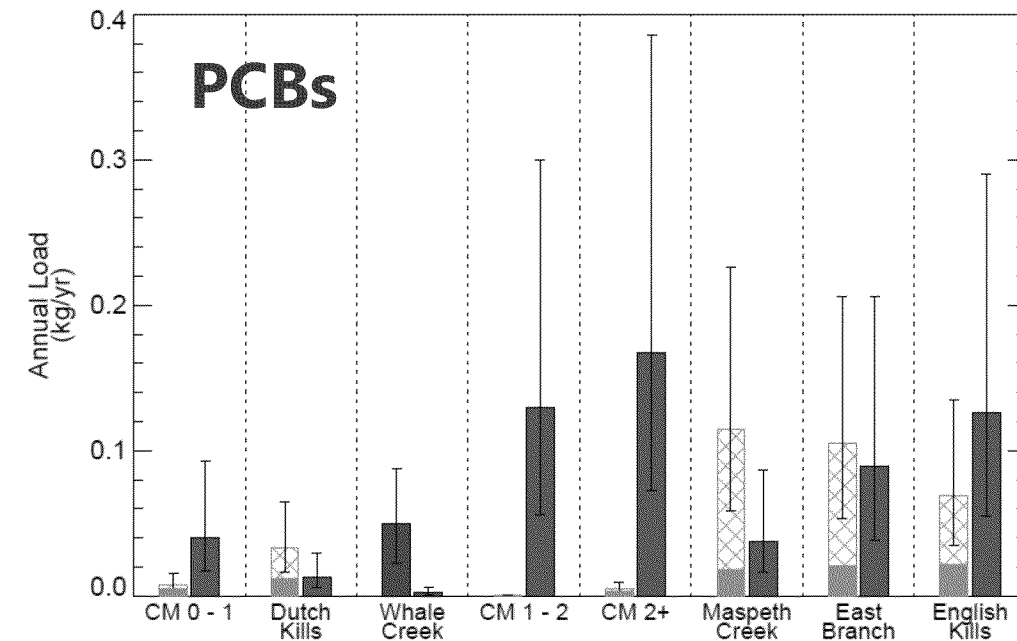
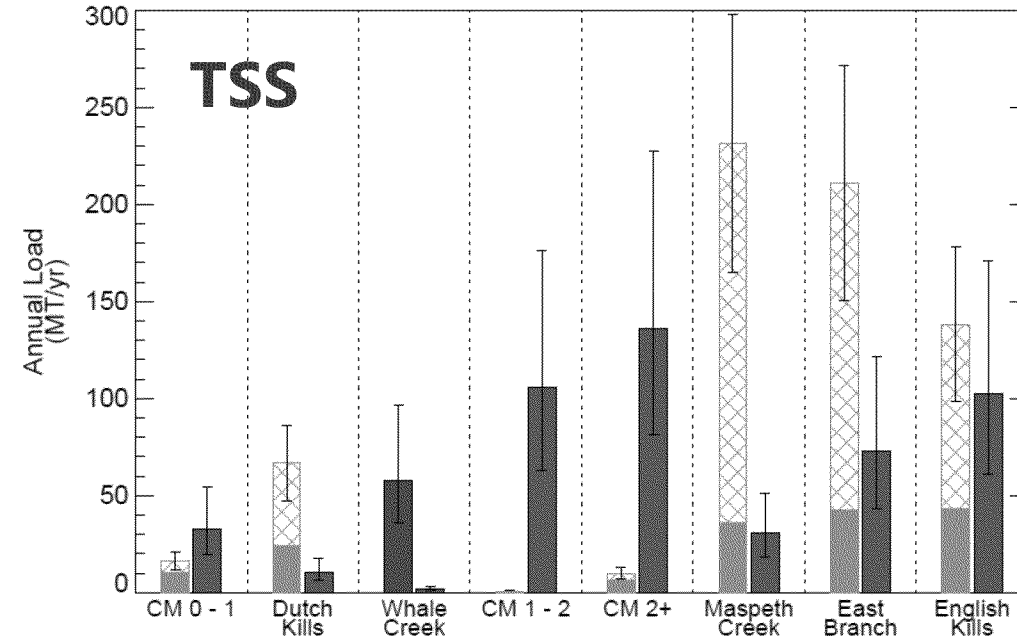
Contribution to Sedimentation: 50% CSO Reduction






Contribution to Sedimentation: 100% CSO Reduction

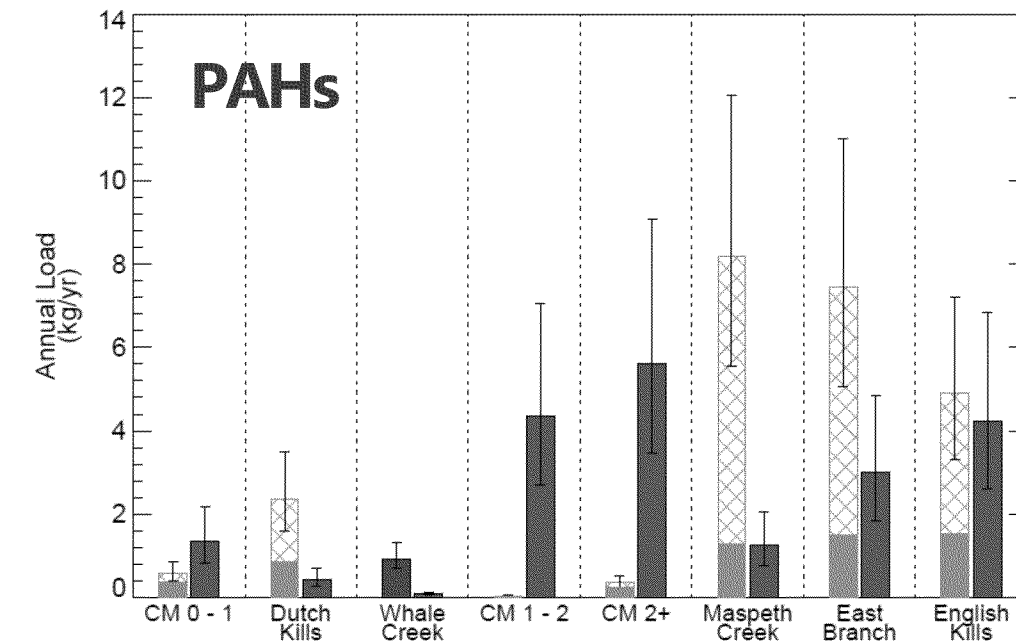
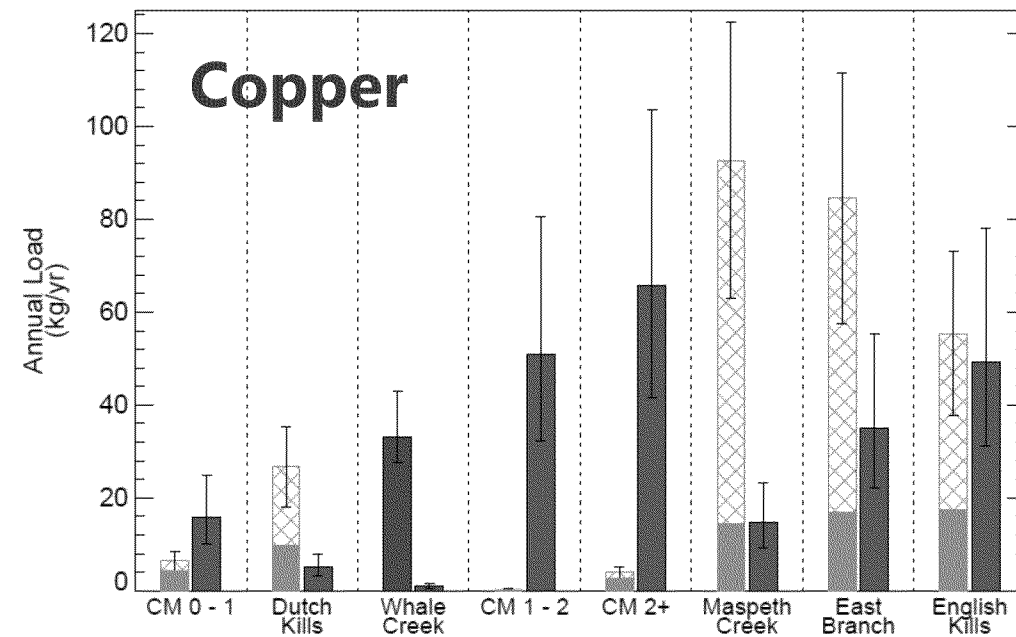





Point Source Loads: TSS and PCBs



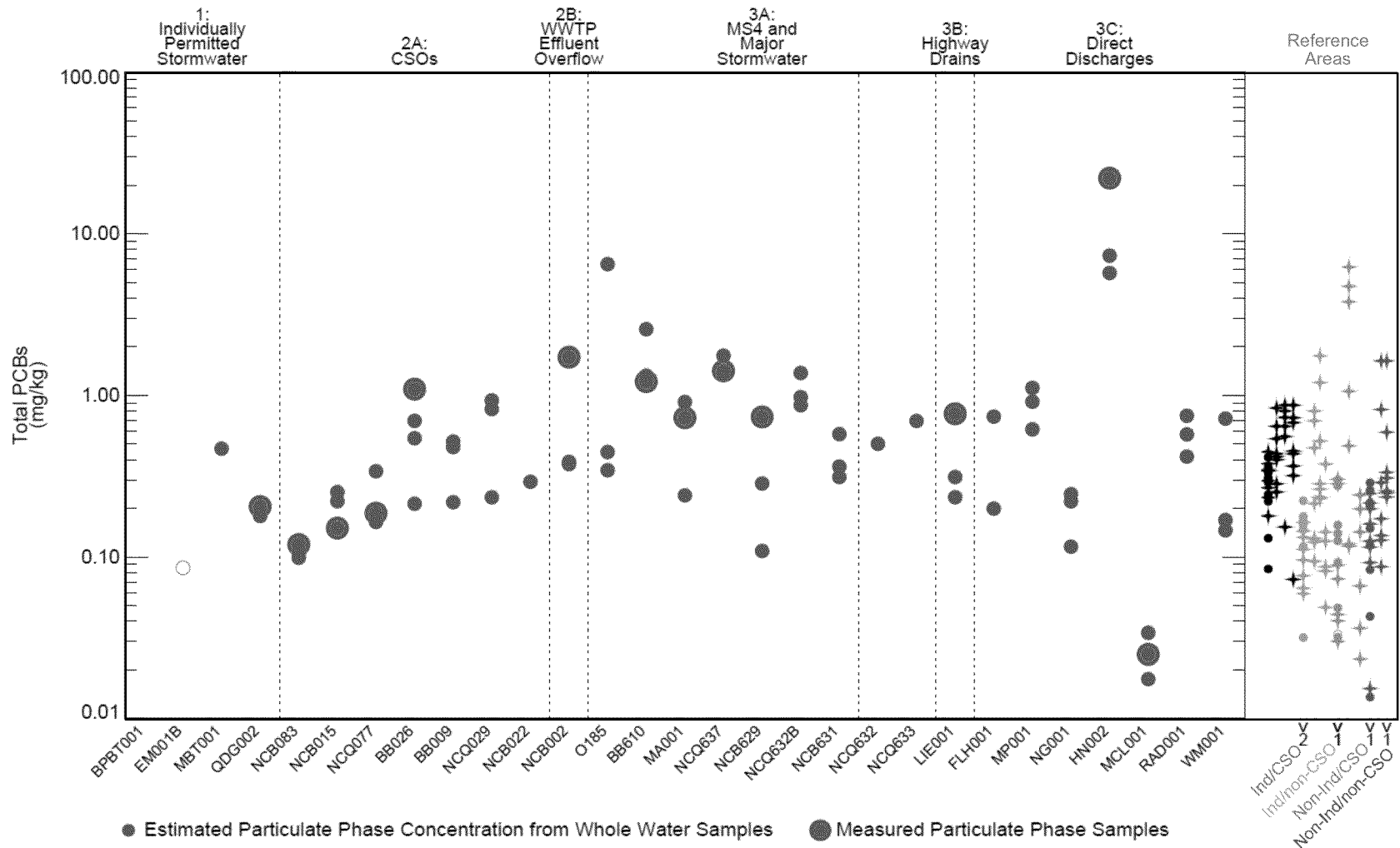
 CSOs
 WWTP Effluent Overflow
 Stormwater

Point Source Loads: Copper and PAHs



 CSOs
 WWTP Effluent Overflow
 Stormwater

PCB Particulate Concentrations: Point Sources and Reference Areas



Summary of Urban Background Loading

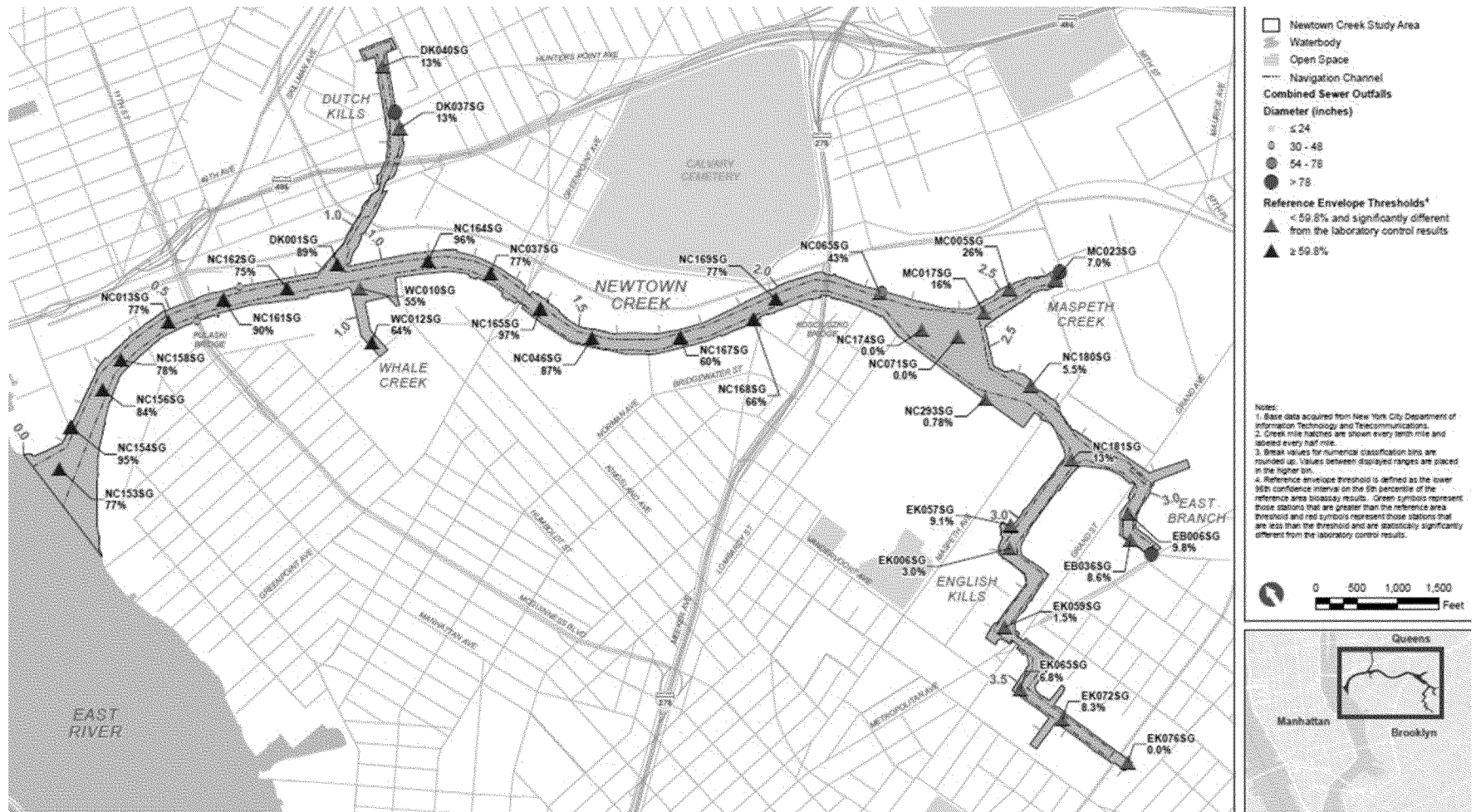
- Even after the LTCP is implemented, Newtown Creek will still receive 2.5 billion gallons of CSOs, MS4, and WWTP overflow
- The LTCP will not change concentrations of CERCLA hazardous chemicals discharging to Newtown Creek

3. The future contamination from ongoing CSO and MS4 discharges that contribute to urban background contamination cause risk to human health and the environment

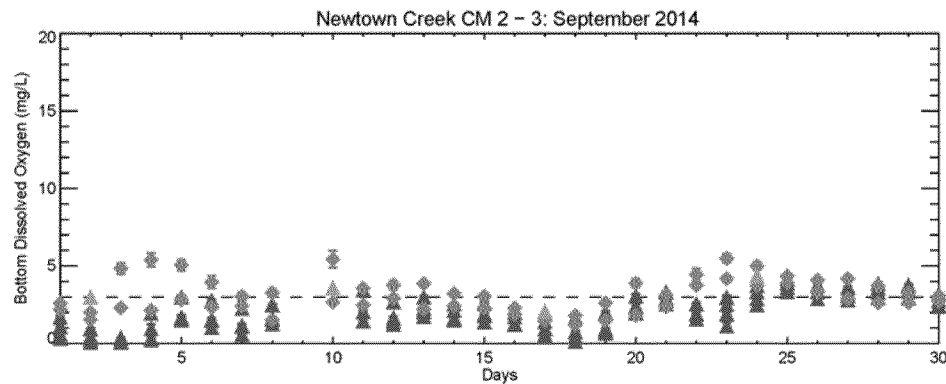
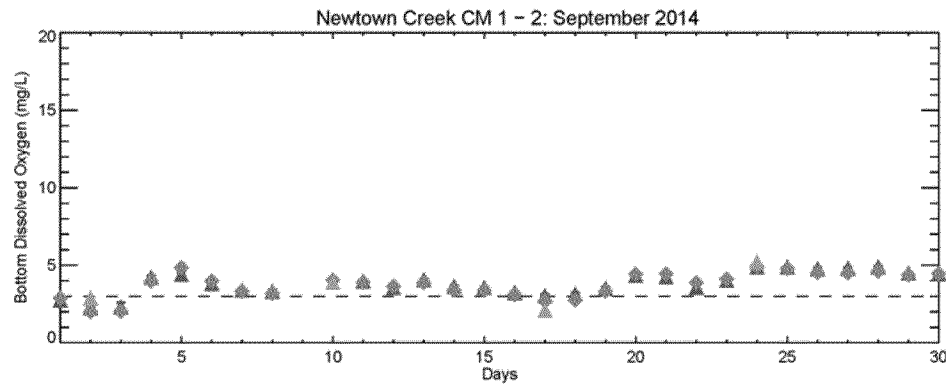
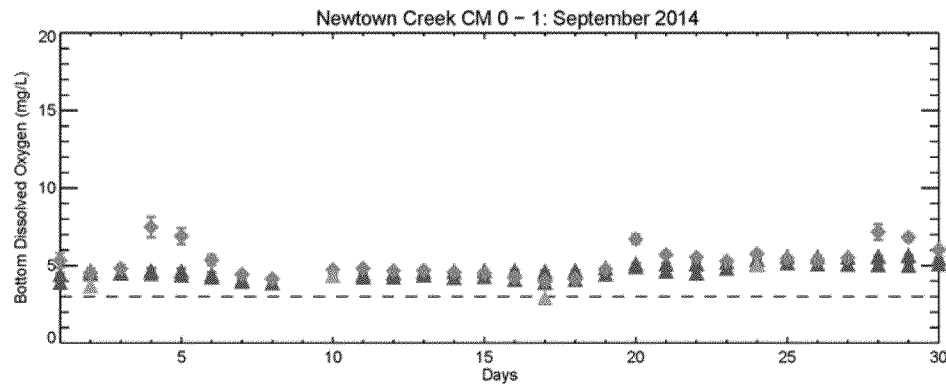
Risks from Ongoing CSO/MS4 Discharges

- CSO/MS4 discharges contribute to benthic toxicity in the vicinity of large CSO/MS4 outfalls
 - Ammonia and sulfides
 - Physical effects due to fouling/smothering
 - Pharmaceuticals and personal care products
- CSO/MS4 discharges result in DO levels that adversely affect the benthic community seasonally
 - High organic loadings result in high SOD
- CSO/MS4 discharges of pathogens and PCBs will result in risks to human health

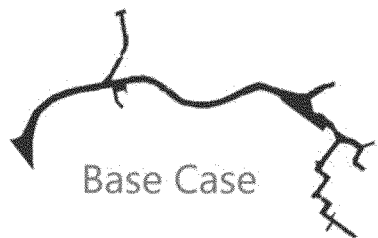
28-Day Survival Reference Envelope (n =48) Comparison



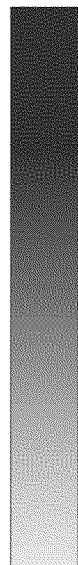
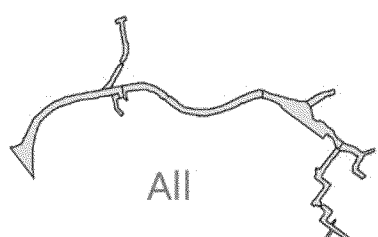
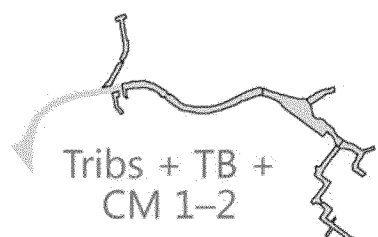
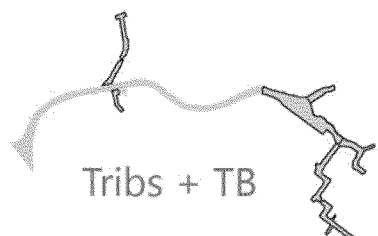
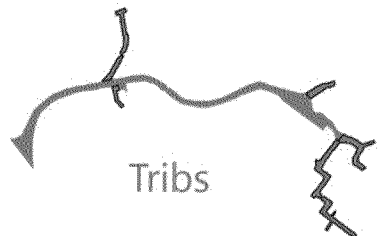
Bottom Water Dissolved Oxygen by Creek Mile



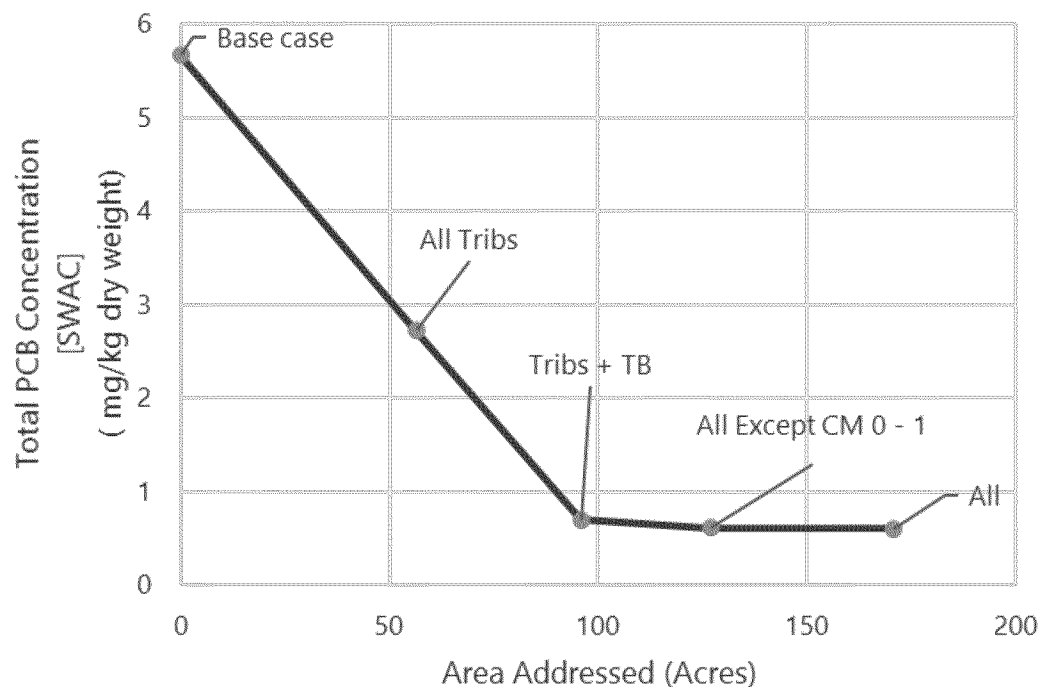
- Triad/benthic community data
- ▲ NYCDEP data
- Phase 2 water quality profiles collected during analytical sampling
- ▲ Continuous sondes, mid-channel
- ◆ Continuous sondes, channel edge



CERCLA Remedy Considerations

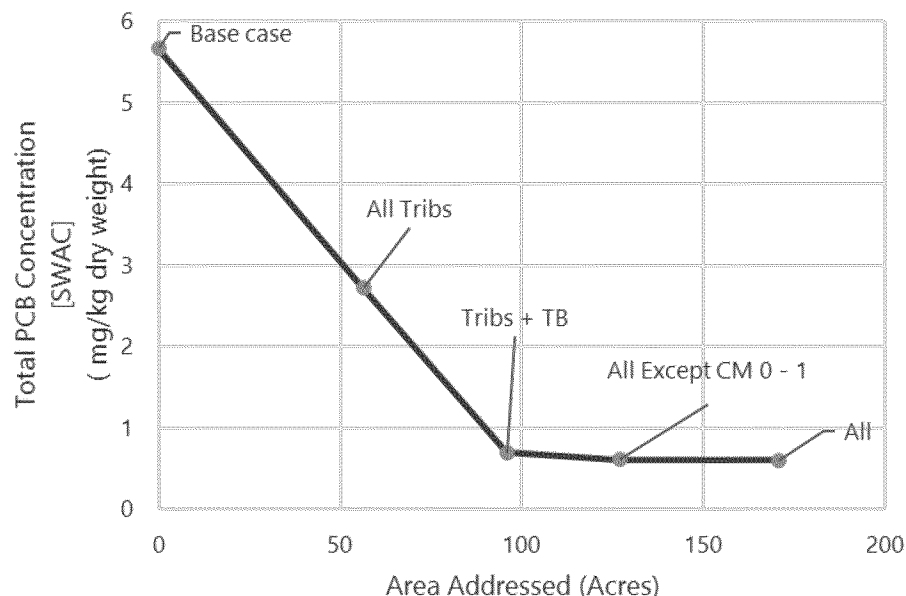


Impact of Remediation on Average Total PCB Concentration in Surface Sediments
Preliminary Evaluation



CERCLA Remedy Considerations

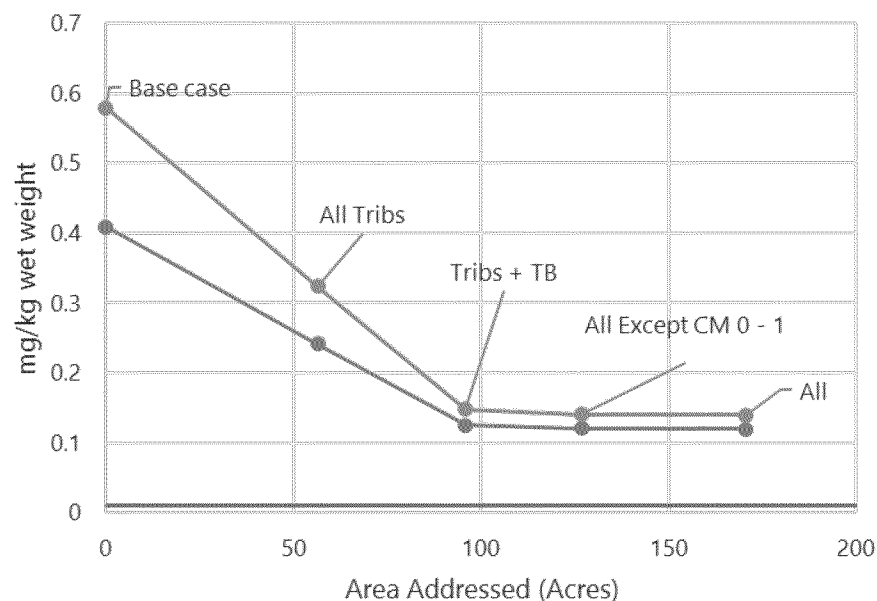
Impact of Remediation on Average Total PCB Concentration in Surface Sediments
Preliminary Evaluation



Notes:

Replacement value for sediment: 0.6 mg/kg (based on weighted average of estimated future depositing solids concentrations)
Tissue concentrations calculated from site-wide sediment SWAC using BSAF
Replacement values for tissue: 0.12 and 0.14 mg/kg for striped bass and blue crab, respectively (based on average from reference areas)

Impact of Remediation on Average Total PCB Concentration in Tissue
Preliminary Evaluation



- Striped Bass (mg/kg wet weight fillet)
- Blue crab (mg/kg wet weight muscle + hepatopancreas)
- Striped Bass 10⁻⁵ Risk Level

4. The CERCLA process needs to account for these future uncontrolled CSO and MS4 loadings that contribute to urban background contamination

Questions for Discussion

- What risk management decisions are the CERCLA process willing to consider to be consistent with CWA decisions?
- Will PRGs reflect future ongoing urban background?
- Will methods for measuring remedy success reflect future ongoing urban background?

Questions/Discussion

